



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

DATE: October 13, 2004

SUBJECT: Spinosad Chronic Dietary Exposure Assessment for a Section 3 Use of Spinosad on Cereal Grains.

PC Code: 110003

DP Number: D341762

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EXECUTIVE SUMMARY

The purpose of this memorandum is to report the results of a dietary exposure analysis for spinosad. In this analysis the chronic dietary exposure and risk estimate resulting from food intake were determined for the general U.S. population and various population subgroups.

A chronic dietary exposure analysis was performed in order to determine the exposure and risk estimates which result from the seed treatment of cereal grains (Crop Group 15, excluding sweet corn) with spinosad. This analysis is based in part on a previous chronic dietary exposure assessment conducted by HED (W. Donovan, 8/7/02, DP Barcode D284555). The chronic analysis assumed tolerance or proposed tolerance level residues for all crops (except grains), poultry, and egg commodities, and anticipated residues for grains, meat and milk commodities. Percent crop treated for several crop commodities were reduced from 100% based on data submitted to HED by the Biological Economic Analysis Division (BEAD; A. J. Gilbert memorandum, 7/23/02). Furthermore, an estimated 10% seed treatment for cereal grains was assumed, based upon a maximum percent seed supply treated with chlorpyrifos-methyl of 8% for

wheat and 5% for barley and oats (Report on FQPA Tolerance Reassessment Progress and Risk Management Decision for Chlorpyrifos methyl (Document # EPA-R-01-003; 1/01)). Since spinosad is likely to be used in place of chlorpyrifos-methyl, this assessment assumed that the percent of seed treated would approximate the maximum percent of the seed supply treated with chlorpyrifos-methyl. The proposed tolerances are associated with a Section 3 request. No acute dietary toxicity endpoints were identified by the HIARC; therefore, no risk assessments for acute exposure were performed. A cancer risk assessment was not performed because the HIARC classified spinosad as a **not likely** human carcinogen. This analysis incorporates all current tolerances as well as the pending stored grain tolerances for spinosad.

The chronic dietary risk assessment for spinosad shows that for all included commodities, the chronic dietary risk estimates are below HED's level of concern (i.e. <100% chronic population adjusted doses (cPAD)) for the general U.S. population (< 20% of the cPAD) and all population subgroups. The chronic dietary exposure estimate for the highest exposed population subgroup (children 1-2 years old) is < 52% of the cPAD.

The toxicology and residue chemistry databases are adequate in terms of human-health risk to support the following tolerances for the combined residues of the insecticide spinosad and Section 3 registration for the use of spinosad on grain seed (corn, oats, sorghum, and wheat; excluding sweet corn):

Table 1. Proposed Section 3 Tolerances for Spinosad use.

Cereal grains	1.5 ppm
Aspirated grain fractions, cereals	200 ppm
Rice hulls	4 ppm
Meat of cattle, goats, hogs, horse, and sheep	1.5 ppm
Meat byproducts of cattle, goats, hogs, horse, and sheep (excluding liver)	8 ppm
Fat of cattle, goats, hogs, horse, and sheep	33 ppm
Milk, whole	6 ppm
Milk, fat	75 ppm
Meat byproducts of poultry	0.03 ppm
Fat of poultry	0.5 ppm

However, the registrant will need to submit a revised Section F stipulating the tolerance levels summarized above.

I. INTRODUCTION

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For acute and chronic assessments, the risk is expressed as a percentage of a maximum acceptable dose. This is the population adjusted dose (PAD), which HED has concluded will result in no unreasonable adverse health effects. The PAD is the Reference Dose (RfD) divided by the

special FQPA Safety Factor. Dietary risk is expressed as a percentage of the PAD. For acute and non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. HED is generally concerned when estimated cancer risk exceeds one in one million (i.e., the risk exceeds 1×10^{-6}). References which discuss the acute and chronic risk assessments in more detail are available on the EPA/pesticides web site: "Available Information on Assessing Exposure from Pesticides, A User's Guide", 6/21/2000, web link: <http://www.epa.gov/fedrgstr/EPA-PEST/2000/July/Day-12/6061.pdf>; or see SOP 99.6 (8/20/99).

The most recent dietary risk assessments for spinosad were conducted by T. Bloem (12/16/03, DP Barcode D296814) and W. Donovan (8/7/02, DP Barcode D284555).

II. RESIDUE INFORMATION

Permanent and temporary tolerances have been established for spinosad as listed in 40 CFR 180.495. Spinosad is registered for use on a number of agricultural commodities, including corn, sorghum, wheat oats, barley, buckwheat, rye, apples, Brassica vegetables, fruiting vegetables (excluding cucurbits), and tuberous and corm vegetables. The existing use on grain, however, is for field application. The present analysis includes the published tolerance values together with a Section 3 proposed seed treatment use on cereal grains. The tolerance levels for stored grains were based on residue data submitted to support the proposed Section 3 action. This exposure analysis assumed tolerance level residues for all crops (except the proposed use on cereal grains), poultry, and egg commodities, and anticipated residues for cereal grains (excluding sweet corn), meat and milk commodities.

Percent crop treated for several crop commodities were reduced from 100% based on data submitted to HED by the Biological Economic Analysis Division (BEAD; A. J. Gilbert memorandum, 7/23/02; Attachment 3). DEEM™ default values were used for concentration factors for all commodities except grains. For grains, processing factors from recent grain studies were used (W. Cutchin, in process, DP Barcode D304201, MRID 46248501). HED has previously conducted a human health risk assessment for spinosad (D. Vogel *et al.*, 8/15/02, DP Barcode D284803). A full listing of the residue information used in the chronic analysis is given in Attachment 1. In addition, an estimated 10 percent of (all) cereal grains treated was derived from information about the use of chlorpyrifos-methyl on cereal grains, a chemical expected to be replaced by spinosad. Chlorpyrifos-methyl has been used to treat 8% of wheat and 5% barley and oats (Report on FQPA Tolerance Reassessment Progress and Risk Management Decision for Chlorpyrifos methyl (Document # EPA-R-01-003; 1/01)). Therefore, estimating 10% of all grains treated with spinosad is a reasonable approximation of potential spinosad use as a replacement for chlorpyrifos-methyl.

Anticipated Residues (W. Donovan, 8/7/02, D284555)

Anticipated residue levels and percent crop treated corrections were used where appropriate for cattle-related commodities and milk. For poultry and eggs, the highest established tolerance levels (supporting Section 18 registrations and used in the previous DEEM™ analysis) and 100% crop treated (100 %CT) assumptions were used. The technique used in that document for

estimating dietary burdens was adopted for estimating dietary burdens resulting from the proposed use on cereal grains. The resulting anticipated residues used in the dietary exposure assessment are listed in Table 2. Also in Table 2 are the anticipated residues for the feed items used to compute the cattle dietary burden. Details regarding their derivation are given after the table.

Table 2. Anticipated Residues for use in the Spinosad Dietary Exposure Assessment.

Commodity	Anticipated Residue, ppm	Commodity	Anticipated Residue, ppm
Anticipated Residues for Livestock Feed Items			
Aspirated grain fractions	7.6	Meat	0.18
		Fat	2.3
Cotton gin byproducts	0.045	Kidney	0.6
		Meat by-products (except kidney)	0.93
Soybean meal	0.016	Milk-fat solids	3.6
Pasture grass, forage	0.11	Milk nonfat solids	0.29
		Milk sugar	0.29
		Milk-based water	0.046
Anticipated Residues for Horse, Goat, Sheep, and Hog Commodities ^a			
Meat	0.033	Kidney	0.1
Fat	0.91	Meat by-products (except kidney)	0.19

^a From AR (oral) column of Table 5.

Aspirated Grain Fractions

Average residues of spinosad from field trials for sorghum and soybean (D269680, M. Doherty, 14-NOV-2000) and from seed treatment for field corn and wheat (D304201, W. Cutchin, in process) conducted at a 1x maximum use rate are as follows:

Field corn, grain	0.51	ppm (n=48)
Sorghum, grain	0.65	ppm (extrapolated from barley, n=22)
Soybean	<0.016	ppm (n=14)
Wheat, grain	0.55	ppm (n=33)

Determination of an anticipated residue level for aspirated grain fractions using the above values and percent crop treated information (where available) together with the relative contribution from each grain is given in Table 3.

Table 3. Determination of anticipated residue level for AGF

RAC	Anticipated Residue Level (ppm)	Concentration Factor ^a	Percent in Grain Dust ^b	AGF Contribution (ppm) ^c
Wheat	0.055 ^d	240	32	4.2
Sorghum	0.065	30	6	0.12
Soybean	<0.016	30	16	0.0768
Corn	0.051 ^e	130	48	3.2

Anticipated Residue Level for AGF	7.6
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^a The experimentally-determined concentration factor of 30x for sorghum (D249374, M. Doherty, 24-JUN-1999) is assumed for soybean.

^b Percentages as specified in Minutes of 5/1/02 ChemSAC Meeting.

^c AGF Contribution determined as (Residue Level)*(Concentration Factor)*(% in Grain Dust)

^d Determined as (Average residue level in crop) * (%CT) = (0.55 ppm) * (10%) = 0.055 ppm.

^e Determined as (Average residue level in crop) * (%CT) = (0.51 ppm) * (10%) = 0.051 ppm.

Thus, the anticipated residue level for AGF for use in the calculation of the anticipated dietary burden of cattle is 7.6 ppm, as shown previously in Table 1.

Cattle Anticipated Dietary Burden

Table 4 shows the determination of a dietary burden for beef and dairy cattle for residues of spinosad in cattle feedstuffs, based on a possible diet composed of feed items that may contain spinosad residues, and in accord with recommendations from the HED ChemSAC (05-AUG-2002). Anticipated residues in aspirated grain fractions were as discussed above. Anticipated residues in cotton gin byproducts, forage grasses, and soybean meal were as described by W. Donovan (8/7/02, DP Barcode D284555). Under the assumptions used here, the total anticipated dietary burden for beef and dairy cattle is 2 ppm.

Table 4. Estimated Dietary Burden for Beef and Dairy Cattle for Residues of Spinosad in Cattle Feedstuffs							
Crop	Commodity	Anticipated Residue, ppm	% DM	% of Diet		Dietary Burden ^a , ppm	
				Beef	Dairy	Beef	Dairy
Grains	Aspirated Fractions	7.6	85	20	20	1.8	1.8
Cotton	Gin Byproducts	0.045 ^b	90	20	20	0.010	0.010
Soybean	Meal	0.016 ^c	92	15	15	0.0026	0.0022
Grass	Forage	0.11 ^d	25	45	45	0.20	0.20
			Total	100	100	2.0	2.0

^a Dietary Burden = Residue Level ÷ % DM × % of Diet.

^b Determined as (cotton gin byproduct tolerance level) * (%CT) = (1.5 ppm) * (3%) = 0.045 ppm.

^c Determined as average residue level in soybean seed (D269680, M. Doherty, 14-NOV-2000).

^d From D269680, M. Doherty, 14-NOV-2000.

Estimated Total Residues in Cattle Commodities

An acceptable cattle feeding study was reviewed in conjunction with a tolerance petition for apple and Brassica leafy vegetable commodities (PP#6F04761/6H05754; S. Willett, 1/23/97). Because the anticipated dietary burden value (2 ppm) lies between the 1 ppm and 3 ppm dosing levels, an average transfer coefficient was used to estimate the residue level at 2 ppm for each animal tissue, as done to calculate anticipated residues previously (M. Doherty, 6/24/99, DP Barcode 249374). The resulting anticipated residue values from feeding livestock treated feedstuffs are summarized in Table 5. These anticipated residue levels for oral (from food intake) and dermal (from the dermal pour-on use) exposures are summarized in Table 6.

Because cattle receiving the dermal pour-on treatment may also be exposed to spinosad residues through feed items, the sum of the exposure scenarios is used to determine the possible total spinosad anticipated residue levels in cattle.

Table 5. Summary of Cattle Feeding Study and Projected Maximum Spinosad Residues in Ruminant Commodities Assuming a Dietary Burden of 2 ppm

Commodity	Feeding Level, ppm			Average Transfer Coefficient	Projected Residue, ppm
	1	3	10		
	Average Residue after 28 days				
Muscle	0.018	0.041	0.178	0.0165	0.033
Fat	0.544	1.047	4.753	0.4561	0.91
Kidney	0.047	0.163	0.445	0.0486	0.1
Liver	0.095	0.273	0.981	0.0947	0.19
Milk, whole	0.049	0.157	0.559	0.0524	0.1
Cream	0.197	0.634	2.157	0.2080	0.42
Milk, skim	0.008	0.019	0.011	0.0051	0.01

Table 6. Determination of Anticipated Residue Levels for Cattle Commodities

Commodity	AR (oral, feed) ^a	AR (dermal pour-on use) ^b	AR (total) ^c
Muscle	0.033	0.144	0.18
Fat	0.91	1.35	2.3
Kidney	0.1	0.505	0.6
Liver	0.19	0.743	0.93
Milk, whole	0.1	0.182	0.29
Cream	0.42	0.626	1.0
Milk, skim	0.01	0.0364 ^d	0.046

^a Determined as average transfer coefficient * 2 ppm (from Table 4).

^b Taken from (D264984, W. Donovan, 14-JUN-2002): Table 2, mean residue column.

^c AR (total) = AR (oral, feed) + AR (dermal pour-on use).

^d Assumed to be 20% of the whole milk value

Using the registrant's estimate of a concentration factor of 12.5 for spinosad in milk fat, the calculated residue for that commodity is 3.6 ppm. Note that for cream, the calculated residue is 1 ppm. Given that cream is approximately 20 to 40% fat, the registrant's concentration factor for milk fat is reasonable. The following assumptions are appropriate for use in the dietary analysis: 1) the calculated AR value for skim milk should be used for milk-based water, 2) the liver AR

value is appropriate to use for meat by-products (except kidney), and 3) the whole milk AR value may be used for milk nonfat solids and milk sugar. This last assumption is likely conservative; however, in the absence of specific information regarding spinosad levels in milk nonfat solids and sugar, the Agency is constrained to use the whole milk value as an upper estimate for these milk components.

Estimated Total Residues in Poultry Commodities

The requested use on cereal grains results in a higher theoretical dietary burden for poultry, raising the dietary burden from 0.8 ppm to 1.2 ppm (Table 7).

Table 7. Poultry Diet to Determine Theoretical Dietary Burden			
Commodity	Residue, ppm	% of Diet	Dietary Burden ^a , ppm
Corn (field) grain	1.5	80	1.2
Alfalfa, meal	4	10	0.4
Oat grain	1.5	10	0.15
		Total	1.75

^aDietary Burden = Residue × % Diet ÷ 100

An acceptable poultry feeding study has been submitted to the Agency (M. Doherty, 6/24/99, D249374). Four dosing levels (0.1, 0.3, 1, and 5 ppm) were used in the study. Interpolating between the 1- and 5-ppm levels results in the projected residues in poultry commodities shown in Table 8.

Table 8. Summary of Poultry Feeding Study and Projected Maximum Spinosad Residues in Poultry Commodities Assuming a Dietary Burden of 1.2 ppm						
Commodity	Feeding Level, ppm				Interpolated Tissue Residue at 1.75 ppm	Recommended Tolerance, ppm
	0.1	0.3	1.0	5.0		
Average Residue, ppm						
Muscle	<0.003	<0.003	<0.003	0.066	0.015	0.02
Fat	<0.03	0.04	0.14	1.23	0.344	0.5
Liver	<0.003	<0.003	0.01	0.09	0.025	0.03
Eggs	<0.003	<0.003	<0.003	0.242	0.048	0.05

Existing and proposed tolerances in poultry and eggs were used in the chronic dietary risk assessment.

III. DEEM-FCID™ PROGRAM AND CONSUMPTION INFORMATION

A spinosad chronic dietary exposure assessment was conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database (DEEM-FCID™, Version 1.3), which incorporates consumption data from USDA's Continuing Surveys of Food Intakes by

Individuals (CSFII), 1994-1996 and 1998. The 1994-96, 98 data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g., apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. Consumption data are averaged for the entire U.S. population and within population subgroups for chronic exposure assessment, but are retained as individual consumption events for acute exposure assessment.

For chronic exposure and risk assessment, an estimate of the residue level in each food or food-form (e.g., orange or orange juice) on the food commodity residue list is multiplied by the average daily consumption estimate for that food/food form. The resulting residue consumption estimate for each food/food form is summed with the residue consumption estimates for all other food/food forms on the commodity residue list to arrive at the total average estimated exposure. Exposure is expressed in mg/kg body weight/day and as a percent of the cPAD. This procedure is performed for each population subgroup.

IV. TOXICOLOGICAL INFORMATION

The HED Hazard Identification Assessment Review Committee (HIARC) met on January 22, 1998 (TXR No.012500) and July 18, 2002 (TXR No. 0050928) to select endpoints for risk assessment and to evaluate the potential for increased susceptibility of infants and children from exposure to spinosad according to the February 2002 OPP 10X guidance document (see (D296814). HED's Food Quality Protection Act (FQPA) Safety Factor Committee met on April 26, 1999 and recommended that the 10x Safety Factor to account for enhanced sensitivity of infants and children be reduced to 1x (i.e., removed; determined by HIARC; TXR No. 0050928), based on toxicological considerations, the conservative residue assumptions used in the dietary exposure estimates and the completeness of the residue chemistry database. Thus, the chronic FQPA Population Adjusted Dose (cPAD) is 0.027 mg/kg/day and is equivalent to the chronic RfD. The HIARC classified spinosad as "not likely to be carcinogenic to humans" by all relevant routes of exposure based on adequate studies in two animal species; therefore, a cancer risk assessment is not required.

Table 9. Summary of Toxicological Doses and Endpoints for Spinosad for Use in Dietary Exposure Assessment

Exposure Scenario	Dose Used in Risk Assessment, UF	FQPA SF* and Endpoint for Risk Assessment	Study and Toxicological Effects
Acute Dietary General US pop.	None	FQPA SF = 1	No appropriate endpoint available; risk assessment not required
Acute Dietary [population subgroups]	None	FQPA SF = 1	No appropriate endpoint available; risk assessment not required

Table 9. Summary of Toxicological Doses and Endpoints for Spinosad for Use in Dietary Exposure Assessment

Exposure Scenario	Dose Used in Risk Assessment, UF	FQPA SF* and Endpoint for Risk Assessment	Study and Toxicological Effects
Chronic Dietary all populations	NOAEL = 2.68 mg/kg UF = 100 Chronic RfD = 0.027 mg/kg/day	FQPA SF = 1 cPAD = 0.027 mg/kg/day	Chronic Toxicity - Dog NOAEL = 2.68 mg/kg

NOAEL = No Observed Adverse Effect Level

U.F. = Uncertainty Factor

FQPA SF = Safety factor to account for enhanced sensitivity of infants and children as required by the Food Quality Protection Act of 1996

RfD = Reference Dose

cPAD = Chronic Population Adjusted Dose = RfD ÷ FQPA SF

V. RESULTS/DISCUSSION AND CONCLUSIONS

As stated above, for chronic assessments, HED is concerned when dietary risk exceeds 100% of the PAD. The DEEM-FCID™ analyses estimate the dietary exposure of the U.S. population and 26 population subgroups. The results reported in Table 2 are for the general U.S. Population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, females 13-49, adults 20-49, and adults 50+ years.

The *Tier 3 chronic* dietary risk assessment was conducted for all supported spinosad food uses. The chronic risk estimates are below the Agency's level of concern for the general U.S. population (< 20% of the cPAD) and all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, adults 50+ years, and females 13-49. The chronic dietary exposure estimate for the highest exposed subgroup, children 1-2 years, is < 52% of the cPAD.

Results of Chronic Dietary Exposure Analysis

Table 10. Results of Chronic Dietary Exposure Analysis for Spinosad

Population Subgroup	Exposure (mg/kg/day)	% cPAD (cPAD = 0.027 mg/kg/day)
General U.S. Population	0.005160	19.1
All Infants (< 1 year old)	0.005603	20.8
Children 1-2 years old	0.013824	51.2
Children 3-5 years old	0.010957	40.6
Children 6-12 years old	0.007290	27.0
Youth 13-19 years old	0.004605	17.1
Adults 20-49 years old	0.004268	15.8

Table 10. Results of Chronic Dietary Exposure Analysis for Spinosad

Population Subgroup	Exposure (mg/kg/day)	% cPAD (cPAD = 0.027 mg/kg/day)
Adults 50+ years old	0.003921	14.5
Females 13-49 years old	0.004185	15.5

VI. DISCUSSION OF UNCERTAINTIES

Adequate data are available for the determination of tolerance levels, as discussed in a separate memo (D252416, G.J. Herndon, 23-FEB-1999). For most crops, the tolerance levels are based on real residue levels measured in field trials, as opposed to being based on the method LOQ.

Tier 3 level refinements were used for meat and milk commodities, while tolerance level residues were used for agricultural crops; anticipated residues were used for the proposed seed treatment use on cereal grains. In general, default processing factors were used. However, in the case of herbs, significant concentrations of residues were observed in dried herbs. Thus, the experimentally-determined processing factor was used in these cases. Also, for sugar beet molasses, no experimental processing factor was determined. Thus, the maximum theoretical processing factor of 12.5x was applied.

Percent crop treated data were used as supplied by BEAD (A.J. Gilbert, 7/23/02). These estimates were only used for previously registered crops. For the seed treatment use on cereal grains, it was estimated that 10% of the seed supply would be treated, corresponding to the approximate maximum cereal grains treated with chlorpyrifos-methyl, the compound that spinosad is intended to replace (Report on FQPA Tolerance Reassessment Progress and Risk Management Decision for Chlorpyrifos methyl (Document # EPA-R-01-003; 1/01)). Estimates can be further refined by expanding the use of anticipated residues to include the agricultural crops, 2) use of processing/cooking data, and/or 3) use of data from market basket surveys.

VI. LIST OF ATTACHMENTS

Attachment 1- Residue Inputs for Tier 1 Dietary Assessment of spinosad

Attachment 2- Results of Tier 1 Chronic Dietary Analysis for spinosad

Attachment 1- Residue Inputs for Tier 1 Dietary Assessment of Spinosad

U.S. Environmental Protection Agency
DEEM-FCID Chronic analysis for SPINOSAD
Residue file: C:\Documents and Settings\btomerli\My
Documents\aria\Spinosad\110003c-new-meat-sep21.R98

Ver. 2.00
1994-98 data

Analysis Date 09-27-2004 Residue file dated: 09-27-2004/13:13:05/8
Reference dose (RfD) = 0.027 mg/kg bw/day
Comment:chronic reference dose = 10x inter, 10x intra, and 1x special FQPA safety factor

Food Crop EPA Code	Grp	Food Name	Residue (ppm)	Adj.Factors	
				#1	#2
950000010	0	Acerola	0.300000	1.000	1.000
180000020	18	Alfalfa, seed	0.020000	1.000	1.000
140000030	14	Almond	0.020000	1.000	0.050
140000031	14	Almond-babyfood	0.020000	1.000	0.050
140000040	14	Almond, oil	0.020000	1.000	0.050
140000041	14	Almond, oil-babyfood	0.020000	1.000	0.050
04010050	4A	Amaranth, leafy	8.000000	1.000	1.000
950000060	0	Amaranth, grain	1.000000	1.000	1.000
110000070	11	Apple, fruit with peel	0.200000	1.000	0.280
110000080	11	Apple, peeled fruit	0.200000	1.000	0.280
110000081	11	Apple, peeled fruit-babyfood	0.200000	1.000	0.280
110000090	11	Apple, dried	0.200000	8.000	0.280
110000091	11	Apple, dried-babyfood	0.200000	8.000	0.280
11000100	11	Apple, juice	0.200000	1.300	0.280
11000101	11	Apple, juice-babyfood	0.200000	1.300	0.280
11000110	11	Apple, sauce	0.200000	1.000	0.280
11000111	11	Apple, sauce-babyfood	0.200000	1.000	0.280
12000120	12	Apricot	0.200000	1.000	0.050
12000121	12	Apricot-babyfood	0.200000	1.000	0.050
12000130	12	Apricot, dried	0.200000	6.000	0.050
12000140	12	Apricot, juice	0.200000	1.000	0.050
12000141	12	Apricot, juice-babyfood	0.200000	1.000	0.050
01030150	1CD	Arrowroot, flour	0.100000	1.000	1.000
01030151	1CD	Arrowroot, flour-babyfood	0.100000	1.000	1.000
950000160	0	Artichoke, globe	0.300000	1.000	1.000
01030170	1CD	Artichoke, Jerusalem	0.100000	1.000	1.000
04010180	4A	Arugula	8.000000	1.000	1.000
95000190	0	Asparagus	0.020000	1.000	1.000
95000200	0	Avocado	0.300000	1.000	0.050
09020210	9B	Balsam pear	0.300000	1.000	1.000
95000220	0	Bamboo, shoots	0.020000	1.000	1.000
95000230	0	Banana	0.020000	1.000	1.000
95000231	0	Banana-babyfood	0.020000	1.000	1.000
95000240	0	Banana, dried	0.020000	3.900	1.000
95000241	0	Banana, dried-babyfood	0.020000	3.900	1.000
15000250	15	Barley, pearl barley	0.650000	1.000	0.100
15000251	15	Barley, pearl barley-babyfood	0.650000	1.000	0.100
15000260	15	Barley, flour	0.650000	0.320	0.100
15000261	15	Barley, flour-babyfood	0.650000	0.320	0.100
15000270	15	Barley, bran	0.650000	1.600	0.100
19010280	19A	Basil, fresh leaves	3.000000	1.000	1.000
19010281	19A	Basil, fresh leaves-babyfood	3.000000	1.000	1.000
19010290	19A	Basil, dried leaves	22.000000	1.000	1.000
19010291	19A	Basil, dried leaves-babyfood	22.000000	1.000	1.000
06030300	6C	Bean, black, seed	0.020000	1.000	0.010
06020310	6B	Bean, broad, succulent	0.020000	1.000	1.000
06030320	6C	Bean, broad, seed	0.020000	1.000	0.010
06020330	6B	Bean, cowpea, succulent	0.020000	1.000	1.000
06030340	6C	Bean, cowpea, seed	0.020000	1.000	0.010
06030350	6C	Bean, great northern, seed	0.020000	1.000	0.010

Spinosad
PC Code: 110003

Dietary Exposure Assessment

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06030360	6C	Bean, kidney, seed	0.020000	1.000	0.010
06020370	6B	Bean, lima, succulent	0.020000	1.000	1.000
06030380	6C	Bean, lima, seed	0.020000	1.000	0.010
06030390	6C	Bean, mung, seed	0.020000	1.000	1.000
06030400	6C	Bean, navy, seed	0.020000	1.000	0.010
06030410	6C	Bean, pink, seed	0.020000	1.000	0.010
06030420	6C	Bean, pinto, seed	0.020000	1.000	0.010
06010430	6A	Bean, snap, succulent	0.300000	1.000	0.090
06010431	6A	Bean, snap, succulent-babyfood	0.300000	1.000	0.090
21000440	M	Beef, meat	0.180000	1.000	1.000
21000441	M	Beef, meat-babyfood	0.180000	1.000	1.000
21000450	M	Beef, meat, dried	0.180000	1.920	1.000
21000460	M	Beef, meat byproducts	0.930000	1.000	1.000
21000461	M	Beef, meat byproducts-babyfood	0.930000	1.000	1.000
21000470	M	Beef, fat	2.300000	1.000	1.000
21000471	M	Beef, fat-babyfood	2.300000	1.000	1.000
21000480	M	Beef, kidney	0.600000	1.000	1.000
21000490	M	Beef, liver	0.930000	1.000	1.000
21000491	M	Beef, liver-babyfood	0.930000	1.000	1.000
01010500	1AB	Beet, garden, roots	0.100000	1.000	1.000
01010501	1AB	Beet, garden, roots-babyfood	0.100000	1.000	1.000
02000510	2	Beet, garden, tops	10.000000	1.000	1.000
01010520	1A	Beet, sugar	0.100000	1.000	1.000
01010521	1A	Beet, sugar-babyfood	0.100000	1.000	1.000
01010530	1A	Beet, sugar, molasses	0.750000	1.000	1.000
01010531	1A	Beet, sugar, molasses-babyfood	0.750000	1.000	1.000
95000540	O	Belgium endive	0.020000	1.000	1.000
13010550	13A	Blackberry	0.700000	1.000	1.000
13010560	13A	Blackberry, juice	0.700000	1.000	1.000
13010561	13A	Blackberry, juice-babyfood	0.700000	1.000	1.000
13020570	13B	Blueberry	0.250000	1.000	1.000
13020571	13B	Blueberry-babyfood	0.250000	1.000	1.000
13010580	13A	Boysenberry	0.700000	1.000	1.000
14000590	14	Brazil nut	0.020000	1.000	1.000
95000600	O	Breadfruit	0.020000	1.000	1.000
05010610	5A	Broccoli	2.000000	1.000	0.620
05010611	5A	Broccoli-babyfood	2.000000	1.000	0.620
05010620	5A	Broccoli, Chinese	2.000000	1.000	1.000
05020630	5B	Broccoli raab	10.000000	1.000	1.000
05010640	5A	Brussels sprouts	2.000000	1.000	1.000
15000650	15	Buckwheat	0.650000	1.000	0.100
15000660	15	Buckwheat, flour	0.650000	0.320	0.100
01010670	1AB	Burdock	0.100000	1.000	1.000
14000680	14	Butternut	0.020000	1.000	1.000
05010690	5A	Cabbage	2.000000	1.000	0.320
05020700	5B	Cabbage, Chinese, bok choy	10.000000	1.000	1.000
05010710	5A	Cabbage, Chinese, napa	2.000000	1.000	1.000
05010720	5A	Cabbage, Chinese, mustard	2.000000	1.000	1.000
95000730	O	Cactus	0.020000	1.000	1.000
95000740	O	Canistel	0.300000	1.000	1.000
09010750	9A	Cantaloupe	0.300000	1.000	1.000
04020760	4B	Cardoon	8.000000	1.000	1.000
95000770	O	Carob	0.020000	1.000	1.000
01010780	1AB	Carrot	0.100000	1.000	1.000
01010781	1AB	Carrot-babyfood	0.100000	1.000	1.000
01010790	1AB	Carrot, juice	0.100000	1.000	1.000
09010800	9A	Casaba	0.300000	1.000	1.000
14000810	14	Cashew	0.020000	1.000	1.000
01030820	1CD	Cassava	0.100000	1.000	1.000
01030821	1CD	Cassava-babyfood	0.100000	1.000	1.000
05010830	5A	Cauliflower	2.000000	1.000	0.540
01010840	1AB	Celeriac	0.100000	1.000	1.000
04020850	4B	Celery	8.000000	1.000	0.780
04020851	4B	Celery-babyfood	8.000000	1.000	0.780
04020860	4B	Celery, juice	8.000000	1.000	0.780
04020870	4B	Celtuce	8.000000	1.000	1.000

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09020880	9B	Chayote, fruit	0.300000	1.000	1.000
95000890	O	Cherimoya	0.300000	1.000	1.000
12000900	12	Cherry	0.200000	1.000	0.040
12000901	12	Cherry-babyfood	0.200000	1.000	0.040
12000910	12	Cherry, juice	0.200000	1.500	0.040
12000911	12	Cherry, juice-babyfood	0.200000	1.500	0.040
14000920	14	Chestnut	0.020000	1.000	1.000
40000930	P	Chicken, meat	0.020000	1.000	1.000
40000931	P	Chicken, meat-babyfood	0.020000	1.000	1.000
40000940	P	Chicken, liver	0.030000	1.000	1.000
40000950	P	Chicken, meat byproducts	0.030000	1.000	1.000
40000951	P	Chicken, meat byproducts-babyfoo	0.030000	1.000	1.000
40000960	P	Chicken, fat	0.500000	1.000	1.000
40000961	P	Chicken, fat-babyfood	0.500000	1.000	1.000
40000970	P	Chicken, skin	0.500000	1.000	1.000
40000971	P	Chicken, skin-babyfood	0.500000	1.000	1.000
06030980	6C	Chickpea, seed	0.020000	1.000	1.000
06030981	6C	Chickpea, seed-babyfood	0.020000	1.000	1.000
06030990	6C	Chickpea, flour	0.020000	1.000	1.000
01011000	1AB	Chicory, roots	0.100000	1.000	1.000
02001010	2	Chicory, tops	10.000000	1.000	1.000
09021020	9B	Chinese waxgourd	0.300000	1.000	1.000
19011030	19A	Chive	22.000000	1.000	1.000
04011040	4A	Chrysanthemum, garland	8.000000	1.000	1.000
19021050	19B	Cinnamon	0.020000	1.000	1.000
19021051	19B	Cinnamon-babyfood	0.020000	1.000	1.000
10001060	10	Citrus citron	0.300000	1.000	1.000
10001070	10	Citrus hybrids	0.300000	1.000	1.000
10001080	10	Citrus, oil	3.000000	1.000	1.000
95001090	O	Cocoa bean, chocolate	0.020000	1.000	1.000
95001100	O	Cocoa bean, powder	0.020000	1.000	1.000
95001110	O	Coconut, meat	0.020000	1.000	1.000
95001111	O	Coconut- meat-babyfood	0.020000	1.000	1.000
95001120	O	Coconut, dried	0.020000	2.100	1.000
95001130	O	Coconut, milk	0.020000	1.000	1.000
95001140	O	Coconut, oil	0.020000	1.000	1.000
95001141	O	Coconut, oil-babyfood	0.020000	1.000	1.000
95001150	O	Coffee, roasted bean	0.020000	1.000	1.000
95001160	O	Coffee, instant	0.020000	1.000	1.000
05021170	5B	Collards	10.000000	1.000	0.240
19011180	19A	Coriander, leaves	22.000000	1.000	1.000
19011181	19A	Coriander, leaves-babyfood	22.000000	1.000	1.000
19021190	19B	Coriander, seed	0.020000	1.000	1.000
19021191	19B	Coriander, seed-babyfood	0.020000	1.000	1.000
15001200	15	Corn, field, flour	0.510000	0.220	0.100
15001201	15	Corn, field, flour-babyfood	0.510000	0.220	0.100
15001210	15	Corn, field, meal	0.510000	0.260	0.100
15001211	15	Corn, field, meal-babyfood	0.510000	0.260	0.100
15001220	15	Corn, field, bran	0.510000	1.000	0.100
15001230	15	Corn, field, starch	0.510000	0.010	0.100
15001231	15	Corn, field, starch-babyfood	0.510000	0.010	0.100
15001240	15	Corn, field, syrup	0.510000	1.500	0.100
15001241	15	Corn, field, syrup-babyfood	0.510000	1.500	0.100
15001250	15	Corn, field, oil	0.510000	0.320	0.100
15001251	15	Corn, field, oil-babyfood	0.510000	0.320	0.100
15001260	15	Corn, pop	0.510000	1.000	0.100
15001270	15	Corn, sweet	0.020000	1.000	1.000
15001271	15	Corn, sweet-babyfood	0.020000	1.000	1.000
95001280	O	Cottonseed, oil	0.020000	1.000	0.030
95001281	O	Cottonseed, oil-babyfood	0.020000	1.000	0.030
11001290	11	Crabapple	0.200000	1.000	1.000
95001300	O	Cranberry	0.020000	1.000	1.000
95001301	O	Cranberry-babyfood	0.020000	1.000	1.000
95001310	O	Cranberry, dried	0.020000	1.000	1.000
95001320	O	Cranberry, juice	0.020000	1.100	1.000
95001321	O	Cranberry, juice-babyfood	0.020000	1.100	1.000

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04011330	4A	Cress, garden	8.000000	1.000	1.000
04011340	4A	Cress, upland	8.000000	1.000	1.000
09021350	9B	Cucumber	0.300000	1.000	1.000
13021360	13B	Currant	0.250000	1.000	1.000
13021370	13B	Currant, dried	0.250000	1.000	1.000
04011380	4A	Dandelion, leaves	8.000000	1.000	1.000
01031390	1CD	Dasheen, corm	0.100000	1.000	1.000
02001400	2	Dasheen, leaves	10.000000	1.000	1.000
95001410	O	Date	0.020000	1.000	1.000
13011420	13A	Dewberry	0.700000	1.000	1.000
19021430	19B	Dill, seed	0.020000	1.000	1.000
19011440	19A	Dillweed	22.000000	1.000	1.000
70001450	P	Egg, whole	0.050000	1.000	1.000
70001451	P	Egg, whole-babyfood	0.050000	1.000	1.000
70001460	P	Egg, white	0.050000	1.000	1.000
70001461	P	Egg, white (solids)-babyfood	0.050000	1.000	1.000
70001470	P	Egg, yolk	0.050000	1.000	1.000
70001471	P	Egg, yolk-babyfood	0.050000	1.000	1.000
08001480	8	Eggplant	0.400000	1.000	0.140
13021490	13B	Elderberry	0.250000	1.000	1.000
04011500	4A	Endive	8.000000	1.000	1.000
95001510	O	Feijoa	0.300000	1.000	1.000
04021520	4B	Fennel, Florence	8.000000	1.000	1.000
95001530	O	Fig	0.100000	1.000	1.000
95001540	O	Fig, dried	0.100000	1.000	1.000
14001550	14	Filbert	0.020000	1.000	1.000
14001560	14	Filbert, oil	0.020000	1.000	1.000
80001570	F	Fish-freshwater finfish	0.020000	1.000	1.000
80001580	F	Fish-freshwater finfish, farm ra	0.020000	1.000	1.000
80001590	F	Fish-saltwater finfish, tuna	0.020000	1.000	1.000
80001600	F	Fish-saltwater finfish, other	0.020000	1.000	1.000
80001610	F	Fish-shellfish, crustacean	0.020000	1.000	1.000
80001620	F	Fish-shellfish, mollusc	0.020000	1.000	1.000
20001630	20	Flaxseed, oil	0.020000	1.000	1.000
03001640	3	Garlic	0.020000	1.000	1.000
03001650	3	Garlic, dried	0.020000	1.000	1.000
03001651	3	Garlic, dried-babyfood	0.020000	1.000	1.000
01031660	1CD	Ginger	0.100000	1.000	1.000
01031661	1CD	Ginger-babyfood	0.100000	1.000	1.000
01031670	1CD	Ginger, dried	0.100000	1.000	1.000
01011680	1AB	Ginseng, dried	0.100000	1.000	1.000
23001690	M	Goat, meat	0.033000	1.000	1.000
23001700	M	Goat, meat byproducts	0.190000	1.000	1.000
23001710	M	Goat, fat	0.910000	1.000	1.000
23001720	M	Goat, kidney	0.100000	1.000	1.000
23001730	M	Goat, liver	0.190000	1.000	1.000
13021740	13B	Gooseberry	0.250000	1.000	1.000
95001750	O	Grape	0.500000	1.000	0.010
95001760	O	Grape, juice	0.500000	1.000	0.010
95001761	O	Grape, juice-babyfood	0.500000	1.000	0.010
95001770	O	Grape, leaves	0.500000	1.000	0.010
95001780	O	Grape, raisin	0.700000	1.000	0.010
95001790	O	Grape, wine and sherry	0.500000	1.000	0.010
10001800	10	Grapefruit	0.300000	1.000	0.010
10001810	10	Grapefruit, juice	0.300000	2.100	0.010
06031820	6C	Guar, seed	0.020000	1.000	1.000
06031821	6C	Guar, seed-babyfood	0.020000	1.000	1.000
95001830	O	Guava	0.300000	1.000	1.000
95001831	O	Guava-babyfood	0.300000	1.000	1.000
19011840	19A	Herbs, other	22.000000	1.000	1.000
19011841	19A	Herbs, other-babyfood	22.000000	1.000	1.000
14001850	14	Hickory nut	0.020000	1.000	1.000
95001860	O	Honey	0.020000	1.000	1.000
95001861	O	Honey-babyfood	0.020000	1.000	1.000
09011870	9A	Honeydew melon	0.300000	1.000	1.000
95001880	O	Hop	0.020000	1.000	1.000

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24001890 M	Horse, meat	0.033000	1.000	1.000
01011900 1AB	Horseradish	0.100000	1.000	1.000
13021910 13B	Huckleberry	0.250000	1.000	1.000
95001920 O	Jaboticaba	0.300000	1.000	1.000
95001930 O	Jackfruit	0.020000	1.000	1.000
05021940 5B	Kale	10.000000	1.000	0.320
95001950 O	Kiwifruit	0.020000	1.000	1.000
05011960 5A	Kohlrabi	2.000000	1.000	1.000
10001970 10	Kumquat	0.300000	1.000	1.000
03001980 3	Leek	0.020000	1.000	1.000
10001990 10	Lemon	0.300000	1.000	0.110
10002000 10	Lemon, juice	0.300000	2.000	0.110
10002001 10	Lemon, juice-babyfood	0.300000	2.000	0.110
10002010 10	Lemon, peel	0.300000	1.000	0.110
19012020 19A	Lemongrass	22.000000	1.000	1.000
06032030 6C	Lentil, seed	0.020000	1.000	1.000
04012040 4A	Lettuce, head	8.000000	1.000	0.590
04012050 4A	Lettuce, leaf	8.000000	1.000	0.420
10002060 10	Lime	0.300000	1.000	1.000
10002070 10	Lime, juice	0.300000	2.000	1.000
10002071 10	Lime, juice-babyfood	0.300000	2.000	1.000
13012080 13A	Loganberry	0.700000	1.000	1.000
95002090 O	Longan	0.300000	1.000	1.000
11002100 11	Loquat	0.200000	1.000	1.000
95002110 O	Lychee	0.300000	1.000	1.000
95002120 O	Lychee, dried	0.300000	1.850	1.000
14002130 14	Macadamia nut	0.020000	1.000	1.000
95002140 O	Mamey apple	0.020000	1.000	1.000
95002150 O	Mango	0.300000	1.000	1.000
95002151 O	Mango-babyfood	0.300000	1.000	1.000
95002160 O	Mango, dried	0.300000	1.000	1.000
95002170 O	Mango, juice	0.300000	1.000	1.000
95002171 O	Mango, juice-babyfood	0.300000	1.000	1.000
95002180 O	Maple, sugar	0.020000	1.000	1.000
95002190 O	Maple syrup	0.020000	1.000	1.000
19012200 19A	Marjoram	22.000000	1.000	1.000
19012201 19A	Marjoram-babyfood	22.000000	1.000	1.000
27002220 D	Milk, fat	3.600000	1.000	1.000
27002221 D	Milk, fat - baby food/infant for	3.600000	1.000	1.000
27012230 D	Milk, nonfat solids	0.290000	1.000	1.000
27012231 D	Milk, nonfat solids-baby food/in	0.290000	1.000	1.000
27022240 D	Milk, water	0.046000	1.000	1.000
27022241 D	Milk, water-babyfood/infant form	0.046000	1.000	1.000
27032251 D	Milk, sugar (lactose)-baby food/	0.290000	1.000	1.000
15002260 15	Millet, grain	0.650000	1.000	0.100
95002270 O	Mulberry	0.020000	1.000	1.000
95002280 O	Mushroom	0.020000	1.000	1.000
05022290 5B	Mustard greens	10.000000	1.000	0.170
12002300 12	Nectarine	0.200000	1.000	1.000
15002310 15	Oat, bran	0.500000	1.600	0.100
15002320 15	Oat, flour	0.500000	0.320	0.100
15002321 15	Oat, flour-babyfood	0.500000	0.320	0.100
15002330 15	Oat, groats/rolled oats	0.500000	1.000	0.100
15002331 15	Oat, groats/rolled oats-babyfood	0.500000	1.000	0.100
08002340 8	Okra	0.400000	1.000	1.000
95002350 O	Olive	0.020000	1.000	1.000
95002360 O	Olive, oil	0.020000	1.000	1.000
03002370 3	Onion, dry bulb	0.100000	1.000	1.000
03002371 3	Onion, dry bulb-babyfood	0.100000	1.000	1.000
03002380 3	Onion, dry bulb, dried	0.100000	9.000	1.000
03002381 3	Onion, dry bulb, dried-babyfood	0.100000	9.000	1.000
03002390 3	Onion, green	0.100000	1.000	1.000
10002400 10	Orange	0.300000	1.000	0.060
10002410 10	Orange, juice	0.300000	1.800	0.060
10002411 10	Orange, juice-babyfood	0.300000	1.800	0.060
10002420 10	Orange, peel	0.300000	1.000	0.060

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95002430 O	Palm heart, leaves	0.020000	1.000	1.000
95002440 O	Palm, oil	0.020000	1.000	1.000
95002441 O	Palm, oil-babyfood	0.020000	1.000	1.000
95002450 O	Papaya	0.300000	1.000	1.000
95002451 O	Papaya-babyfood	0.300000	1.000	1.000
95002460 O	Papaya, dried	0.300000	1.800	1.000
95002470 O	Papaya, juice	0.300000	1.500	1.000
04012480 4A	Parsley, leaves	8.000000	1.000	1.000
19012490 19A	Parsley, dried leaves	22.000000	1.000	1.000
19012491 19A	Parsley, dried leaves-babyfood	22.000000	1.000	1.000
01012500 1AB	Parsley, turnip rooted	0.100000	1.000	1.000
01012510 1AB	Parsnip	0.100000	1.000	1.000
01012511 1AB	Parsnip-babyfood	0.100000	1.000	1.000
95002520 O	Passionfruit	0.300000	1.000	1.000
95002521 O	Passionfruit-babyfood	0.300000	1.000	1.000
95002530 O	Passionfruit, juice	0.300000	1.000	1.000
95002531 O	Passionfruit, juice-babyfood	0.300000	1.000	1.000
95002540 O	Pawpaw	0.020000	1.000	1.000
06022550 6B	Pea, succulent	0.020000	1.000	1.000
06022551 6B	Pea, succulent-babyfood	0.020000	1.000	1.000
06032560 6C	Pea, dry	0.020000	1.000	0.010
06032561 6C	Pea, dry-babyfood	0.020000	1.000	0.010
06012570 6A	Pea, edible podded, succulent	0.300000	1.000	1.000
06032580 6C	Pea, pigeon, seed	0.020000	1.000	0.010
06022590 6B	Pea, pigeon, succulent	0.020000	1.000	1.000
12002600 12	Peach	0.200000	1.000	0.040
12002601 12	Peach-babyfood	0.200000	1.000	0.040
12002610 12	Peach, dried	0.200000	7.000	0.040
12002611 12	Peach, dried-babyfood	0.200000	7.000	0.040
12002620 12	Peach, juice	0.200000	1.000	0.040
12002621 12	Peach, juice-babyfood	0.200000	1.000	0.040
95002630 O	Peanut	0.020000	1.000	0.010
95002640 O	Peanut, butter	0.020000	1.890	0.010
95002650 O	Peanut, oil	0.020000	1.000	0.010
11002660 11	Pear	0.200000	1.000	1.000
11002661 11	Pear-babyfood	0.200000	1.000	1.000
11002670 11	Pear, dried	0.200000	6.250	1.000
11002680 11	Pear, juice	0.200000	1.000	1.000
11002681 11	Pear, juice-babyfood	0.200000	1.000	1.000
14002690 14	Pecan	0.020000	1.000	1.000
08002700 8	Pepper, bell	0.400000	1.000	0.450
08002701 8	Pepper, bell-babyfood	0.400000	1.000	0.450
08002710 8	Pepper, bell, dried	0.400000	1.000	0.450
08002711 8	Pepper, bell, dried-babyfood	0.400000	1.000	0.450
08002720 8	Pepper, nonbell	0.400000	1.000	0.450
08002721 8	Pepper, nonbell-babyfood	0.400000	1.000	0.450
08002730 8	Pepper, nonbell, dried	0.400000	1.000	0.450
19022740 19B	Pepper, black and white	0.020000	1.000	1.000
19022741 19B	Pepper, black and white-babyfood	0.020000	1.000	1.000
95002750 O	Peppermint	0.020000	1.000	1.000
95002760 O	Peppermint, oil	0.020000	1.000	1.000
95002770 O	Persimmon	0.020000	1.000	1.000
95002780 O	Pine nut	0.020000	1.000	1.000
95002790 O	Pineapple	0.020000	1.000	1.000
95002791 O	Pineapple-babyfood	0.020000	1.000	1.000
95002800 O	Pineapple, dried	0.020000	5.000	1.000
95002810 O	Pineapple, juice	0.020000	1.700	1.000
95002811 O	Pineapple, juice-babyfood	0.020000	1.700	1.000
14002820 14	Pistachio	0.020000	1.000	0.010
95002830 O	Plantain	0.020000	1.000	1.000
95002840 O	Plantain, dried	0.020000	3.900	1.000
12002850 12	Plum	0.200000	1.000	0.050
12002851 12	Plum-babyfood	0.200000	1.000	0.050
12002860 12	Plum, prune, fresh	0.200000	1.000	0.050
12002861 12	Plum, prune, fresh-babyfood	0.200000	1.000	0.050
12002870 12	Plum, prune, dried	0.200000	5.000	0.050

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12002871	12	Plum, prune, dried-babyfood	0.200000	5.000	0.050
12002880	12	Plum, prune, juice	0.200000	1.400	0.050
12002881	12	Plum, prune, juice-babyfood	0.200000	1.400	0.050
95002890	O	Pomegranate	0.020000	1.000	1.000
25002900	M	Pork, meat	0.033000	1.000	1.000
25002901	M	Pork, meat-babyfood	0.033000	1.000	1.000
25002910	M	Pork, skin	0.910000	1.000	1.000
25002920	M	Pork, meat byproducts	0.190000	1.000	1.000
25002921	M	Pork, meat byproducts-babyfood	0.190000	1.000	1.000
25002930	M	Pork, fat	0.910000	1.000	1.000
25002931	M	Pork, fat-babyfood	0.910000	1.000	1.000
25002940	M	Pork, kidney	0.100000	1.000	1.000
25002950	M	Pork, liver	0.190000	1.000	1.000
01032960	1C	Potato, chips	0.100000	1.000	0.010
01032970	1C	Potato, dry (granules/ flakes)	0.100000	6.500	0.010
01032971	1C	Potato, dry (granules/ flakes)-b	0.100000	6.500	0.010
01032980	1C	Potato, flour	0.100000	1.000	0.010
01032981	1C	Potato, flour-babyfood	0.100000	1.000	0.010
01032990	1C	Potato, tuber, w/peel	0.100000	1.000	0.010
01032991	1C	Potato, tuber, w/peel-babyfood	0.100000	1.000	0.010
01033000	1C	Potato, tuber, w/o peel	0.100000	1.000	0.010
01033001	1C	Potato, tuber, w/o peel-babyfood	0.100000	1.000	0.010
60003010	P	Poultry, other, meat	0.020000	1.000	1.000
60003020	P	Poultry, other, liver	0.030000	1.000	1.000
60003030	P	Poultry, other, meat byproducts	0.030000	1.000	1.000
60003040	P	Poultry, other, fat	0.500000	1.000	1.000
60003050	P	Poultry, other, skin	0.500000	1.000	1.000
95003060	O	Psyllium, seed	0.020000	1.000	1.000
10003070	10	Pummelo	0.300000	1.000	1.000
09023080	9B	Pumpkin	0.300000	1.000	0.010
09023090	9B	Pumpkin, seed	0.300000	1.000	0.010
11003100	11	Quince	0.200000	1.000	1.000
95003110	O	Quinoa, grain	0.020000	1.000	1.000
04013130	4A	Radicchio	8.000000	1.000	1.000
01013140	1AB	Radish, roots	0.100000	1.000	1.000
02003150	2	Radish, tops	10.000000	1.000	1.000
01013160	1AB	Radish, Oriental, roots	0.100000	1.000	1.000
02003170	2	Radish, Oriental, tops	10.000000	1.000	1.000
05023180	5B	Rape greens	10.000000	1.000	1.000
20003190	20	Rapeseed, oil	0.020000	1.000	1.000
20003191	20	Rapeseed, oil-babyfood	0.020000	1.000	1.000
13013200	13A	Raspberry	0.700000	1.000	1.000
13013201	13A	Raspberry-babyfood	0.700000	1.000	1.000
13013210	13A	Raspberry, juice	0.700000	1.000	1.000
13013211	13A	Raspberry, juice-babyfood	0.700000	1.000	1.000
04023220	4B	Rhubarb	8.000000	1.000	1.000
15003230	15	Rice, white	0.650000	0.040	0.100
15003231	15	Rice, white-babyfood	0.650000	0.040	0.100
15003240	15	Rice, brown	0.650000	0.190	0.100
15003241	15	Rice, brown-babyfood	0.650000	0.190	0.100
15003250	15	Rice, flour	0.650000	0.320	0.100
15003251	15	Rice, flour-babyfood	0.650000	0.320	0.100
15003260	15	Rice, bran	0.650000	1.310	0.100
15003261	15	Rice, bran-babyfood	0.650000	1.310	0.100
01013270	1AB	Rutabaga	0.100000	1.000	1.000
15003280	15	Rye, grain	0.650000	1.000	0.100
15003290	15	Rye, flour	0.650000	0.320	0.100
20003300	20	Safflower, oil	0.020000	1.000	1.000
20003301	20	Safflower, oil-babyfood	0.020000	1.000	1.000
01013310	1AB	Salsify, roots	0.100000	1.000	1.000
02003320	2	Salsify, tops	10.000000	1.000	1.000
95003330	O	Sapote, Mamey	0.300000	1.000	1.000
19013340	19A	Savory	22.000000	1.000	1.000
95003350	O	Seaweed	0.020000	1.000	1.000
95003351	O	Seaweed-babyfood	0.020000	1.000	1.000
95003360	O	Sesame, seed	0.020000	1.000	1.000

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95003361 O	Sesame, seed-babyfood	0.020000	1.000	1.000
95003370 O	Sesame, oil	0.020000	1.000	1.000
95003371 O	Sesame, oil-babyfood	0.020000	1.000	1.000
03003380 3	Shallot	0.020000	1.000	1.000
26003390 M	Sheep, meat	0.033000	1.000	1.000
26003391 M	Sheep, meat-babyfood	0.033000	1.000	1.000
26003400 M	Sheep, meat byproducts	0.190000	1.000	1.000
26003410 M	Sheep, fat	0.910000	1.000	1.000
26003411 M	Sheep, fat-babyfood	0.910000	1.000	1.000
26003420 M	Sheep, kidney	0.100000	1.000	1.000
26003430 M	Sheep, liver	0.190000	1.000	1.000
15003440 15	Sorghum, grain	0.650000	1.000	0.100
15003450 15	Sorghum, syrup	0.650000	1.000	0.100
95003460 O	Soursop	0.300000	1.000	1.000
06003470 6	Soybean, seed	0.016000	1.000	1.000
06003480 6	Soybean, flour	0.016000	1.000	1.000
06003481 6	Soybean, flour-babyfood	0.016000	1.000	1.000
06003490 6	Soybean, soy milk	0.016000	1.000	1.000
06003491 6	Soybean, soy milk-babyfood or in	0.016000	1.000	1.000
06003500 6	Soybean, oil	0.016000	1.000	1.000
06003501 6	Soybean, oil-babyfood	0.016000	1.000	1.000
95003510 O	Spanish lime	0.300000	1.000	1.000
95003520 O	Spearmint	0.020000	1.000	1.000
95003530 O	Spearmint, oil	0.020000	1.000	1.000
19023540 19B	Spices, other	0.020000	1.000	1.000
19023541 19B	Spices, other-babyfood	0.020000	1.000	1.000
04013550 4A	Spinach	8.000000	1.000	0.320
04013551 4A	Spinach-babyfood	8.000000	1.000	0.320
09023560 9B	Squash, summer	0.300000	1.000	0.010
09023561 9B	Squash, summer-babyfood	0.300000	1.000	0.010
09023570 9B	Squash, winter	0.300000	1.000	0.010
09023571 9B	Squash, winter-babyfood	0.300000	1.000	0.010
95003580 O	Starfruit	0.300000	1.000	1.000
95003590 O	Strawberry	1.000000	1.000	1.000
95003591 O	Strawberry-babyfood	1.000000	1.000	1.000
95003600 O	Strawberry, juice	1.000000	1.000	1.000
95003601 O	Strawberry, juice-babyfood	1.000000	1.000	1.000
95003610 O	Sugar apple	0.300000	1.000	1.000
95003620 O	Sugarcane, sugar	0.020000	1.000	1.000
95003621 O	Sugarcane, sugar-babyfood	0.020000	1.000	1.000
95003630 O	Sugarcane, molasses	0.020000	1.000	1.000
95003631 O	Sugarcane, molasses-babyfood	0.020000	1.000	1.000
20003640 20	Sunflower, seed	0.020000	1.000	1.000
20003650 20	Sunflower, oil	0.020000	1.000	1.000
20003651 20	Sunflower, oil-babyfood	0.020000	1.000	1.000
01033660 1CD	Sweet potato	0.100000	1.000	1.000
01033661 1CD	Sweet potato-babyfood	0.100000	1.000	1.000
04023670 4B	Swiss chard	8.000000	1.000	1.000
95003680 O	Tamarind	0.020000	1.000	1.000
10003690 10	Tangerine	0.300000	1.000	0.060
10003700 10	Tangerine, juice	0.300000	2.300	0.060
01033710 1CD	Tanier, corm	0.100000	1.000	1.000
95003720 O	Tea, dried	0.020000	1.000	1.000
95003730 O	Tea, instant	0.020000	1.000	1.000
08003740 8	Tomatillo	0.400000	1.000	1.000
08003750 8	Tomato	0.400000	1.000	0.300
08003751 8	Tomato-babyfood	0.400000	1.000	0.300
08003760 8	Tomato, paste	0.400000	5.400	0.020
08003761 8	Tomato, paste-babyfood	0.400000	5.400	0.020
08003770 8	Tomato, puree	0.400000	3.300	0.020
08003771 8	Tomato, puree-babyfood	0.400000	3.300	0.020
08003780 8	Tomato, dried	0.400000	14.300	0.020
08003781 8	Tomato, dried-babyfood	0.400000	14.300	0.020
08003790 8	Tomato, juice	0.400000	1.500	0.020
95003800 O	Tomato, Tree	0.020000	1.000	1.000
15003810 15	Triticale, flour	0.550000	0.320	0.100

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15003811	15	Triticale, flour-babyfood	0.550000	0.320	0.100
50003820	P	Turkey, meat	0.020000	1.000	1.000
50003821	P	Turkey, meat-babyfood	0.020000	1.000	1.000
50003830	P	Turkey, liver	0.030000	1.000	1.000
50003831	P	Turkey, liver-babyfood	0.030000	1.000	1.000
50003840	P	Turkey, meat byproducts	0.030000	1.000	1.000
50003841	P	Turkey, meat byproducts-babyfood	0.030000	1.000	1.000
50003850	P	Turkey, fat	0.500000	1.000	1.000
50003851	P	Turkey, fat-babyfood	0.500000	1.000	1.000
50003860	P	Turkey, skin	0.500000	1.000	1.000
50003861	P	Turkey, skin-babyfood	0.500000	1.000	1.000
01033870	1CD	Turmeric	0.100000	1.000	1.000
01013880	1AB	Turnip, roots	0.100000	1.000	1.000
05023890	5B	Turnip, greens	10.000000	1.000	0.060
95003900	O	Vinegar	0.020000	1.000	1.000
14003910	14	Walnut	0.020000	1.000	1.000
95003970	O	Water chestnut	0.020000	1.000	1.000
95003980	O	Watercress	8.000000	1.000	1.000
09013990	9A	Watermelon	0.300000	1.000	0.010
09014000	9A	Watermelon, juice	0.300000	1.000	0.010
15004010	15	Wheat, grain	0.550000	1.000	0.100
15004011	15	Wheat, grain-babyfood	0.550000	1.000	0.100
15004020	15	Wheat, flour	0.550000	0.320	0.100
15004021	15	Wheat, flour-babyfood	0.550000	0.320	0.100
15004030	15	Wheat, germ	0.550000	0.540	0.100
15004040	15	Wheat, bran	0.550000	1.600	0.100
15004050	15	Wild rice	0.650000	1.000	0.100
01034060	1CD	Yam, true	0.100000	1.000	1.000
01034070	1CD	Yam bean	0.100000	1.000	1.000

Attachment 2: Chronic Analysis

U.S. Environmental Protection Agency
DEEM-FCID Chronic analysis for SPINOSAD
Residue file name: C:\Documents and Settings\btomerli\My
Documents\aria\Spinosad\110003c-new-meat-sep21.R98
Ver. 2.00
(1994-98 data)
Adjustment factor #2 used.
Analysis Date 09-27-2004/13:13:26 Residue file dated: 09-27-2004/13:13:05/8
Reference dose (Rfd, Chronic) = .027 mg/kg bw/day
COMMENT 1: chronic reference dose = 10x inter, 10x intra, and 1x special FQPA safety
factor

Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
U.S. Population (total)	0.005160	19.1%
U.S. Population (spring season)	0.005311	19.7%
U.S. Population (summer season)	0.005093	18.9%
U.S. Population (autumn season)	0.005172	19.2%
U.S. Population (winter season)	0.005063	18.8%
Northeast region	0.005414	20.1%
Midwest region	0.005261	19.5%
Southern region	0.004655	17.2%
Western region	0.005626	20.8%
Hispanics	0.005639	20.9%
Non-hispanic whites	0.005055	18.7%
Non-hispanic blacks	0.004923	18.2%
Non-hisp/non-white/non-black	0.006413	23.8%
All infants (< 1 year)	0.005603	20.8%
Nursing infants	0.002023	7.5%
Non-nursing infants	0.006962	25.8%
Children 1-6 yrs	0.011632	43.1%
Children 7-12 yrs	0.006933	25.7%
Females 13-19 (not preg or nursing)	0.004196	15.5%
Females 20+ (not preg or nursing)	0.004077	15.1%
Females 13-50 yrs	0.004425	16.4%
Females 13+ (preg/not nursing)	0.004624	17.1%
Females 13+ (nursing)	0.004929	18.3%
Males 13-19 yrs	0.004969	18.4%
Males 20+ yrs	0.004196	15.5%
Seniors 55+	0.003885	14.4%
Children 1-2 yrs	0.013824	51.2%
Children 3-5 yrs	0.010957	40.6%
Children 6-12 yrs	0.007290	27.0%
Youth 13-19 yrs	0.004605	17.1%
Adults 20-49 yrs	0.004268	15.8%
Adults 50+ yrs	0.003921	14.5%
Females 13-49 yrs	0.004185	15.5%

ATTACHMENT 3. PERCENT CROP TREATED INFORMATION FOR SPINOSAD.

Chemical Case #
Spinosyn/Spinosad ****

AI #
110003

Analyst
Anthony J. Gilbert

Date
7/23/2002

PERCENT CROP TREATED ANALYSIS

****(Preliminary Deliberative Document - Internal Use Only)****

SPECIALTY CROPS*	Crop Acres Grown (Acres)	Percent Crop Treated (%)
Almonds	583,824	5.19
Apples	367,700	28.00
Apricots	22,281	5.06
Avocados	76,404	5.11
Beans, Snap	89,800	9.00
Broccoli	136,373	61.85
Cabbage	82,899	32.29
Cauliflower	47,300	53.50
Celery‡	25,500	78.00
Collards‡	14,100	24.00
Cherries‡	113,140	4.46
Eggplant‡	2,600	14.00
Grapefruit	178,752	0.96
Grapes, Wine‡	614,160	0.02
Kale‡	3,880	32.00
Lemons	74,040	11.04
Lettuce, Head‡	196,700	59.00
Lettuce, Other‡	93,800	42.00
Mustard Greens‡	8,950	17.00
Oranges	971,886	5.50
Peaches	158,950	4.25
Peppers	62,300	45.00
Pistachios	99,846	0.10
Prunes/Plums	150,207	5.07
Spinach	35,230	31.52
Pumpkin	65,346	0.08
Squash	59,562	0.38
Sweet Corn	674,356	0.36

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Tangerines‡	44,700	6.00
Turnip Greens‡	11,750	6.00
Tomatoes, Fresh‡	120,570	30.00
Tomatoes, Processed‡	293,500	2.00
Watermelon	188,400	0.98
FIELD CROPS*	Crop Acres Grown (Acres)	Percent Crop Treated (%)
Cotton	15,442,331	2.96
Dry Beans/Peas	1,681,995	0.07
Peanuts	1,471,012	1.05
Potatoes	1,378,218	1.02
Tobacco	400,037	32.09
Wheat, Winter	41,318,018	0.02

Source: USDA/NASS; EPA Proprietary Data

*Average figures from 1998-2000 unless otherwise noted.

**Average figures from 1999-2001 unless otherwise noted.

‡Agricultural Chemical Usage: 2000 Vegetable Summary; or Agricultural Chemical Usage: 1999 Fruit and Nut Summary; or EPA Proprietary Data for 2000 or 2001